

In the claims:

Following is a complete set of claims as amended with this Response.

1. (Currently Amended) A method comprising:

applying repeatedly a high power pulse to a plasma chamber from a power supply, wherein a control loop controls the output of the power supply to increase the reaction rate of plasma within the chamber; and

applying, between applications of the high power pulses, a low power pulse and;
~~modulating the amplitude of the high power pulse based on the conditions of the plasma.~~

2. (Original) The method of Claim 1, wherein the low power pulses are applied to allow the temperature of the plasma within the plasma chamber to diminish.

3. (Previously Presented) The method of Claim 1, wherein the high power and low power pulses alternate in spaced time intervals.

4. (Original) The method of Claim 1, wherein applying a high power pulse comprises applying the power at evenly spaced intervals with a constant spacing of time between the intervals.

5. (Reinstated) The method of Claim 1, further comprising modulating the amplitude of the high power pulse based on the conditions of the plasma.

6. (Original) The method of Claim 1, wherein applying the high power pulse comprises pulsing the coil at a selected alternating current frequency.

7. (Original) The method of Claim 6, wherein the selected frequency is selected based on the conditions of the plasma.

8. (Original) The method of Claim 1, wherein applying the low power pulse comprises actively detuning a pulsed power generator with respect to the plasma.

9. (Original) The method of Claim 8, wherein detuning comprises changing the operating frequency of the power generator beyond the range of an active matching network between the power generator and the plasma.

10. (Original) The method of Claim 8, wherein detuning comprises changing the settings of an active matching network that is coupled between the power generator and the plasma.

11. (Original) The method of Claim 1, where applying the high and low power pulses comprise applying the high and low power pulses through an air-coupled coil.

12. (Previously Presented) The method of Claim 1, where the high and low power pulses are applied to the plasma through a coil magnetically coupled to the plasma through a magnetic core.

13. (Previously Presented) The method of Claim 1, wherein applying a high power pulse comprises modulating the amplitude of a pulsed power generator.

14. (Currently Amended) An apparatus comprising:
a coil to couple power to a plasma in a plasma chamber; and
a pulsed power generator coupled to the coil to apply power to the coil; and
a control loop to control the amplitude of the pulsed power generator to
repeatedly apply a high power pulse to the coil to increase the reaction rate of the plasma within the chamber, and to apply a low power pulse to the coil between applications of the high power pulses, ~~and to modulate the amplitude of the high power pulse based on the conditions of the plasma.~~

15. (Original) The apparatus of Claim 14, wherein the low power pulses allow the temperature of the plasma within the plasma chamber to diminish.

16. (Previously Presented) The apparatus of Claim 14, wherein the high power and low power pulses alternate in spaced time intervals.

17. (Reinstated) The apparatus of Claim 14, wherein the pulsed power generator modulates the amplitude of the high power pulse based on the conditions of the plasma.

18. (Original) The apparatus of Claim 14, wherein the pulsed power generator applies the high power pulse by pulsing the coil at a selected alternating current frequency.

19. (Original) The apparatus of Claim 14, wherein the pulsed power generator applies the low power pulse by actively detuning with respect to the plasma.

20. (Original) The apparatus of Claim 14, further comprising an active matching network between the pulsed power generator and the coil and wherein the pulsed power generator applies the low power pulse by changing the operating frequency of the power generator beyond the range of the active matching network.

21. (Original) The apparatus of Claim 14, further comprising an active matching network between the pulsed power generator and the coil and wherein the pulsed power generator applies the low power pulse by changing the settings of the active matching network.

22. (Original) The apparatus of Claim 14, wherein the coil comprises an air-coupled coil.

23. (Original) The apparatus of Claim 14, wherein the coil comprises a magnetic core.

24. (Currently Amended) A machine-readable medium having stored thereon data representing instructions which, when executed by a machine, cause the machine to perform operations comprising:

applying repeatedly a high power pulse to a plasma chamber from a power supply, wherein a control loop controls the output of the power supply to increase the reaction rate of plasma within the chamber; and

applying, between applications of the high power pulses, a low power pulse and;
~~modulating the amplitude of the high power pulse based on the conditions of the plasma.~~

25. (Original) The medium of Claim 24, wherein the instructions for applying a high power pulse comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising applying the power at evenly spaced intervals with a constant spacing of time between the intervals.

26. (Reinstated) The medium of Claim 24, further comprising instructions which, when executed by the machine, cause the machine to perform further operations comprising modulating the amplitude of the high power pulse based on the conditions of the plasma.

27. (Original) The medium of Claim 24, wherein the instructions for applying the low power pulse comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising changing the operating frequency

of a power generator beyond the range of an active matching network that is connected between the power generator and the plasma.

28. (Previously Presented) The medium of Claim 24 wherein the instructions for applying a high power pulse comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising modulating the amplitude of a pulsed power generator.